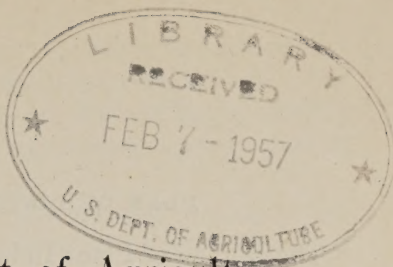


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

Seed and Plant Introduction and Distribution,

WASHINGTON, D. C.

DISTRIBUTION OF COTTON SEED IN 1906.

The present will be the fourth distribution of cotton seed carried on by this Office with the cooperation of Dr. Herbert J. Webber, of Plant Breeding Investigations.

During the past three years, distribution has been made of twenty-two varieties of cotton, every one of which was carefully selected by Doctor Webber because of special local value.

From the reports so far received it is evident that as a rule the seed sent out by the Department of Agriculture was better than that commonly grown. The distribution of the present year will add five varieties to those previously distributed.

In general the Department will not duplicate the distribution of a variety, so that those who are pleased with the variety sent this year are urged to save their own seed.

A. J. PIETERS,
Botanist in Charge.

Approved:

B. T. GALLOWAY,
Chief of Bureau.

WASHINGTON, D. C., April 30, 1906.

PLAN OF DISTRIBUTING THE VARIETIES.

The Bureau of Plant Industry has in progress investigations in the improvement of cotton, and as a foundation for such work it is necessary to determine the varieties best suited to each section of the cotton belt. The distribution of cotton seed is therefore arranged with the view of furnishing growers with seed of new varieties to test in comparison with the varieties they already grow. This will enable them to make comparisons and select the varieties best suited to their climatic and soil conditions. Information regarding the adaptability of varieties to different sections is as yet too meager to enable a judgment to be formed as to which will succeed best in certain localities.

In the distribution of cotton seed it is proposed to select, so far as possible, new and little-known varieties which have proved valuable in certain localities, and to distribute the seed in such a way as to insure their being generally tested throughout the cotton States. It is intended at the end of the season to follow up each package with a circular, in order to obtain information in regard to the results. Growers receiving the seed are urged to cooperate with the Department of Agriculture by making a careful test of the seed which is sent with this circular. In another part of the circular will be found descriptions of the varieties distributed and a statement of the points on which information is desired.

The investigations of the Department have served to demonstrate that in many cases, if not the majority, cotton seed which is placed on the market as select seed has not been improved by any careful method of seed selection, but in general is simply select seed in the respect that it is taken from the first or second picking of seed or possibly from a specially good field. It is of the greatest importance that highly selected pedigree seed which has been bred true to the type of the race and to a high state of productivity be placed in the hands of growers.

In order to demonstrate what can be accomplished by such selection the Department proposes to carefully and systematically select the seed of certain standard varieties in order to place in the hands of growers each year pedigree seed of high efficiency. In pursuance of this plan, seed of Pride of Georgia, Sunflower, and Southern Hope cotton which have been subjected to some degree of selection are included in the distribution this year. It should be understood, however, that as yet the selection has not been under way sufficiently long to

have produced very marked effect and the full results to be expected will not be visible in the seed distributed the present season. The method used in selecting and growing the seed of these three varieties will be given under the description of the varieties in another part of this circular.

In this connection the writer desires to urge growers to adopt some thorough and systematic method of selecting and improving their cotton seed, as it is just as important to plant good seed as it is to cultivate the crop. A paper describing the methods of selecting and breeding cotton will be sent to all farmers applying for it. The little highly bred seed which can be distributed by the Department of Agriculture will only be sufficient to furnish a test of the variety. Growers are urged to use this seed as a basis to start pedigree selections for the purpose primarily of supplying improved select seed for their own plantations.

In the boll-weevil-infested districts of Texas there is an urgent demand for big-bolled early varieties of cotton which will produce a good quality of lint. The early varieties which have been mainly recommended for infested regions, such as King and Shine's Early, have proved unsatisfactory because of their poor, short lint and small bolls. Extensive variety tests have been conducted for the last two years in connection with the Plant Breeding Investigations of the Department and these tests have resulted in calling attention to several little-known varieties which give promise of being valuable for general cultivation in boll-weevil districts. Seed of three such varieties (the Hagaman, Strickland, and Triumph) was distributed last year, and this year seed of the Jackson Round-Boll and Cook's Improved has been purchased for such distribution.

Careful breeding experiments are being conducted, having as their principal object the production of better early big-bolled types than those now existing. One variety produced through selections made from native Texas sorts was secured in the course of experiments made by the late Mr. A. W. Edson. This variety gives evidence of being of considerable value, though requiring further selection to bring it to the highest stage of perfection. It has thus been thought desirable to distribute a limited quantity of seed in order to place it in the hands of growers for trial. The variety has been named the "Edson," in remembrance of the able investigator who died in the service of the Department. The seed of the Edson and of the Jackson Round-Boll varieties was grown in the boll-weevil-infested section and will not be distributed in regions where the weevil does not occur.

The other varieties of cotton selected for distribution this year are Hawkins, Rogers Big-Boll, and Hagaman. All of the varieties to be distributed are ordinary short-staple Uplands, except Sunflower and Southern Hope, which are classed as long-staple Uplands. No seed

of Sea Island varieties has been included in the distribution the present season, owing to the fact that the Department has been unable to purchase good seed.

DISTRIBUTION OF VARIETIES BY CONGRESSIONAL DISTRICTS.

ALABAMA.

Districts 1 and 2.....	Truitt and Hagaman.
3 and 4.....	Hagaman and Rogers.
5, 6, and 7.....	Rogers and Hawkins.
8 and 9.....	Hagaman and Pride of Georgia.

ARKANSAS.

Districts 1 and 2.....	Hagaman and Pride of Georgia.
3 and 4.....	Hagaman and Rogers.
5, 6, and 7.....	Hawkins and Cook's Improved.

FLORIDA.

Districts 1.....	Southern Hope and Hawkins.
2 and 3.....	Hawkins and Pride of Georgia.

GEORGIA.

Districts 1, 2, and 3.....	Pride of Georgia and Hagaman.
4, 5, and 6.....	Pride of Georgia and Hawkins.
7, 8, and 9.....	Cook's Improved and Hawkins.
10 and 11.....	Pride of Georgia and Rogers.

LOUISIANA.

Districts 3 and 4.....	Pride of Georgia and Rogers.
5, 6, and 7.....	Pride of Georgia and Hawkins.

MISSISSIPPI.

Districts 1, 2, 3, and 4.....	Pride of Georgia and Hawkins.
5.....	Culpepper and Hagaman.
6, 7, and 8.....	Rogers and Hagaman.

NORTH CAROLINA.

Districts 1, 2, and 3.....	Pride of Georgia and Hawkins.
4, 5, and 6.....	Pride of Georgia and Rogers.
7, 8, and 9.....	Cook's Improved and Hagaman.

SOUTH CAROLINA.

Districts 1 and 2.....	Hawkins and Cook's Improved.
3 and 4.....	Pride of Georgia and Rogers.
5 and 6.....	Pride of Georgia and Hawkins.
7.....	Pride of Georgia and Hawkins.

TENNESSEE.

Districts 3, 4, and 5.....	Pride of Georgia and Hawkins.
6 and 7.....	Truitt and Hagaman.
8 and 9.....	Hagaman and Hawkins.
10.....	Pride of Georgia and Cook's Improved.

TEXAS.

Districts 1.....	Cook's Improved and Jackson Round-Boll.
2, 3, 4, and 5.....	Cook's Improved and Jackson Round-Boll.
6.....	Edson and Jackson Round-Boll.
7, 8, and 9.....	Cook's Improved and Jackson Round-Boll.
10.....	Edson and Jackson Round-Boll.
11, 12, 13, and 14.....	Cook's Improved and Jackson Round-Boll.
15.....	Sunflower, Southern Hope, and Russell.
16.....	Cook's Improved and Jackson Round-Boll.

OKLAHOMA.

Entire TerritoryPride of Georgia and Hawkins.

DESCRIPTION OF VARIETIES DISTRIBUTED.**SHORT-STAPLE UPLAND VARIETIES.****PRIDE OF GEORGIA.**

Pride of Georgia (fig. 1) is a big-bolled Upland cotton originated by James F. Jones, near Hogansville, Troup County, Ga., about 1901. It was produced by selecting especially fine early stalks from the Jones Improved, the first selections being made in 1900. The seed was carefully selected again in 1901 and 1902. The variety is described by Mr. Jones as being similar to the original Jones Improved, but inclined to fruit and mature earlier.

A variety plat of the Pride of Georgia from select seed purchased from Mr. Jones was grown at Columbia, S. C., in 1903, in the course of the experiments conducted by the Department of Agriculture, and it was found to be one of the best varieties tested. In considering all characters it was thought to be the best early big-bolled race tested, and accordingly a number of selections were carefully made of the best producing early plants. These were planted in a breeding patch in 1904, the progeny of each selected individual being planted separately. Again in 1904 the very best individuals were selected from this plat for continuing the breeding, after which a second selection of seed was taken from the best remaining plants to plant a multiplication plat the next year in following out the method of seed selection pursued by the best plant breeders. This second select seed from the breeding patch of 1904

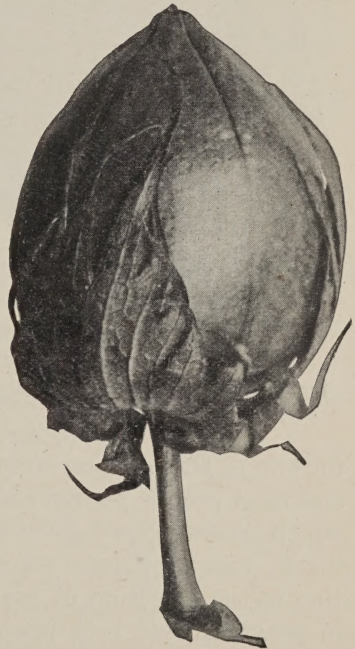


FIG. 1.—Mature boll of Pride of Georgia cotton.

was planted in 1905 in a multiplication field, and it is the seed from this multiplication field which is being distributed in 1906. The seed is thus more carefully selected than that usually placed in the hands of growers and should give good results. The breeding of this variety for higher production is being continued by the best improved methods, and each year seed of a higher degree of perfection will be furnished for the Department's distribution. It is certainly one of the earliest and most prolific of the big-bolled cottons and is especially adapted to the cotton sections of Georgia and South Carolina. Its adaptability to central and western sections of the cotton belt has not been thoroughly determined.

A short description of the race follows:

Plant low, stocky, vigorous, and prolific, of Truitt type, with 2 to 4 wide-spreading, horizontal branches from near the base; bolls round to ovate, very large, 5-locked; seeds tawny, fuzzy, or tufted, medium size, well covered with lint, 8 to 9 per lock; staple 1 inch in length, white, very strong, good in uniformity, and of medium fineness; per cent of lint, 32 to 34; season of maturity early.

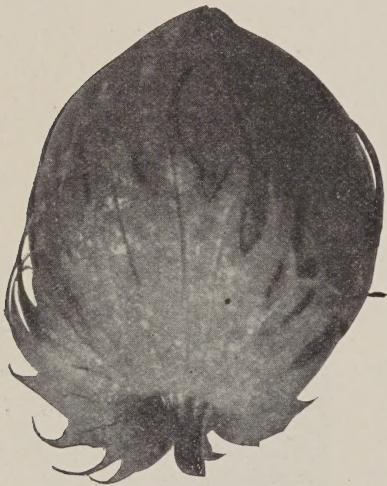


FIG. 2.—Mature boll of Rogers Big-Boll cotton.

The seed of this variety distributed was grown by Mr. R. C. Keenan, of Columbia, S. C., under the immediate direction of the Department of Agriculture.

ROGERS BIG-BOLL.

Rogers Big-Boll (fig. 2) is an Upland big-bolled cotton originated by Mr. R. H. Rogers, of Darlington County, S. C., about eighteen years ago. A quantity of Herlong, Jones, and Jowers seed was mixed together and grown in Mr. Rogers's garden

for two or three years, after which he began selecting the best shaped and most prolific plants, which resulted in the Rogers Big-Boll variety, which is said to be distinct in type from either of the original varieties. Every year for fifteen years Mr. Rogers has given his personal attention to the selection of his seed. Each year he plants a small area in seed from his best plants, and this furnishes seed for his general crop the following year.

This variety has not been extensively grown, except in the locality where it was originated. It seems well adapted to the conditions in that section. In 1905 a yield of nearly two bales per acre was made with this variety on a field of 7 acres grown for the Department near McColl, S. C. Some objections to it are that it is late, opens rather poorly, and is somewhat difficult to pick.

Plant very vigorous, with from 2 to 4 basal branches near the ground, in type resembling Jones, Truitt, and Pride of Georgia; foliage heavy; bolls large, almost spherical; seeds medium large, gray tufted, yielding from 32 to 36 per cent of lint; lint of good quality for short-staple cotton; season medium late.

A portion of the seed of this variety distributed was purchased from Mr. R. H. Rogers, the originator of the variety, at Darlington, S. C. The remainder came from a field grown for the Department by Mr. D. B. Fletcher, at McColl, S. C., in the season of 1905.

HAWKINS.

Hawkins, or Hawkins Extra Prolific, as it is sometimes called (fig. 3), is an Upland cotton which was originated several years ago by Mr. B. W. Hawkins, of Putnam County, Ga. The variety is said by Mr. Hawkins to have been produced by the hybridization of New Era and Prolific. Mr. Hawkins claims that the variety has been fixed in type and improved by careful selection carried on through several generations. It has been grown somewhat generally over the entire cotton belt and seems to be considered a very good variety under most conditions.

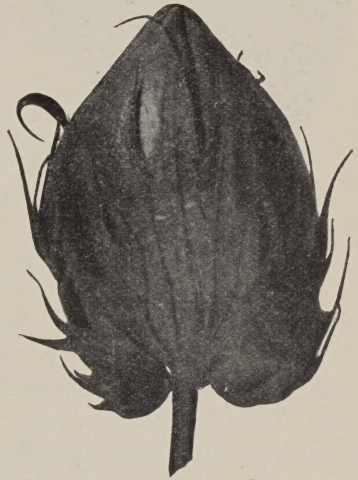


FIG. 3.—Mature boll of Hawkins cotton.

Plant vigorous, rather tall, branching, with from 2 to 4 basal limbs near the ground, closely resembling the Crosland cotton; taproot long, thus making the variety drought resistant; foliage light; bolls of medium size, ovate, slightly pointed, opening well, and easy to pick, but holding the seed cotton well; seeds comparatively small, covered with a light gray fuzz and yielding from 38 to 40 per cent of lint; lint of good quality for Upland cotton; season early.

The seed of this variety distributed was grown by Mr. B. W. Hawkins, the originator of the variety, at Nona, Ga., in 1905.

EDSON.

The Edson cotton (fig. 4) is the result of two years of careful selection conducted by the late Mr. A. W. Edson, who up to the time of his death was an investigator in the Plant Breeding Investigations of the Bureau of Plant Industry. The first selections were made in the field of Mr. Stone, on the farm of Col. E. S. Peters, at Calvert, Tex. The field was planted in a Texas big-bolled cotton, locally known as the Hugh Daly cotton. The original field was on rich sandy bottom land, and the selections have been grown for the last two seasons on sandy black land in the vicinity of Waco, Tex. Mr. Edson's object in mak-

ing the selection was to get an improved early large-bolled type which would be desirable for cultivation in boll-weevil-infested districts. The variety has not been bred to the highest state of perfection, but

it is believed to possess merit, and owing to Mr. Edson's death it is thought best to distribute a limited quantity of the seed to insure its thorough trial. As stated, the variety has been given its name in recognition of the services of Mr. Edson in connection with the work.

Plant vigorous, of moderate growth, wide branching and with few to several ascending basal branches; bolls medium to large; locks 8-seeded; lint like ordinary Upland, abundant, 1 to 1½ inches in length; seeds large, fuzzy, white; season early, though not so early as King.

The seed used for distribution was grown under the direction of the Plant Breeding Investigations of the Department of Agriculture at Waco, Tex., in the season of 1905.

JACKSON ROUND-BOLL.

The Jackson Round-Boll cotton (fig. 5)

FIG. 4.—Mature boll of Edson cotton.

has been bred by Mr. James Jackson, of Preston, Tex. He began his selections in 1882 and for some years worked by selecting desirable plants and picking them in a separate bag which he carried when gathering his crop. Each year enough seed was obtained in this way to plant the next year's crop. In the fall of 1897, however, he found one plant in his field which so completely fitted his ideal that he kept it separate and carefully planted it the next year. From the seed of this plant he raised 300 pounds of seed cotton the second year, and the variety has been increased from this cotton.

An average of the gin turn-out of 20 bales taken at random from

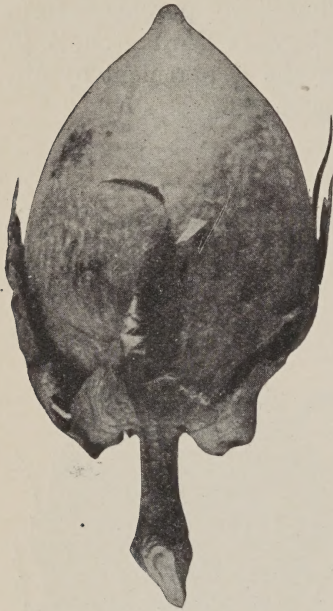


FIG. 5.—Mature boll of Jackson Round-Boll cotton.

the records of Mr. Jackson's gin showed the lint as making 34.9 per cent of seed cotton, ranging from 31.1 to 38.5 per cent, this difference being due to soils and seasons of the year.

This variety has been selected on the rich bottom lands of the Red River and on the hillside adjoining, and may thus be adapted to sandy soils. It is very storm resistant, but the bolls do not droop as in some other storm-resistant varieties. The variety is very popular in regions where known.

Plant strong, upright in growth; basal branches few or none, these and the stems well set with stiff short-jointed branchlets; bolls large, very round, borne on short stiff branchlets, not ordinarily drooping but holding the seed cotton well, 4 to 5 locked; seed large, gray, 8 to 9 per lock; lint white, uniform in length, strong, from 1 to $1\frac{1}{2}$ inches in length, of ordinary Upland character; season medium to late.

The seed of this variety distributed was grown by Mr. James Jackson, at Preston, Tex., in the season of 1905.

COOK'S IMPROVED.

This variety was originated by Mr. J. R. Cook, of Schley, Ga., in 1904. It is supposed by the originator to be a hybrid between "Beat All" and an early variety of cotton. It has been carefully selected by the originator for ten years. Both the season and the soil upon which the variety was grown this year (1905) were unfavorable to a high percentage of lint; but on an average loam soil it is said to yield very close to 40 per cent of lint. The high percentage of lint, prolificness, comparative earliness, and large size of bolls make it a very desirable variety.

Plant of uniform size, of Peterkin type; bolls large, round, blunt-pointed, 4 or 5 locked, opening well; seed medium size, gray or white tufted; lint of Upland quality, $\frac{7}{8}$ to $1\frac{1}{2}$ inches in length, 36 to 38 per cent; season of maturing medium early.

The seed of this variety distributed was grown by Mr. J. R. Cook, at Schley, Ga., in the season of 1905.

HAGAMAN.

The Hagaman cotton (fig. 6), so far as can be learned, originated from a single stalk, or possibly from several stalks, selected about 1877 by the late Maj. F. V. D. Hagaman on his plantation in West Feliciana Parish, near Jackson, La. The Peeler cotton was grown almost exclusively on the plantation, but it is supposed that the original Hagaman seed came from a variety known as Deane, some of which was grown on the plantation at that time. The variety was grown and kept pure for many years by Major Hagaman; and his friend and neighbor, Mr. Thomas J. Fishburn, who furnished the present data, also grew the variety and took considerable pains to improve it. In the quarter of a century or more in which the variety has been grown it has doubtless become considerably mixed, but the fact that it has

persisted so long testifies to its value. While an old variety, it is known only locally, and has never been generally distributed.

In the test of this variety by the Department of Agriculture during 1904 it proved to be about as early and as productive as King, with bolls fully as large and a much better staple. It is only partially non-dropping or resistant to storms, but is better than King in this respect. In length of staple the variety is somewhat variable, ranging from 1 to about $1\frac{3}{8}$ inches, and averaging between $1\frac{1}{8}$ and $1\frac{1}{4}$ inches. The cotton is somewhat above the average in length and also in fineness, and is said to bring three-fourths of a cent premium over ordinary short-staple cottons in the New Orleans market. The Hagaman cotton is to be recommended wherever an early variety with good staple is desired. It is said to be particularly well adapted to poor land, but is also exceedingly productive on rich soils.



FIG. 6.—Mature boll of Hagaman cotton.

Plant large, erect, vigorous, and somewhat irregular in branching and shape, especially on rich soils; bolls ovate, small, 4 and 5 locked, easily picked; staple 1 to $1\frac{3}{8}$ inches in length; per cent of lint about 31.5 to 32; season of maturity early.

The seed of Hagaman cotton distributed by the Department of Agriculture was furnished by Messrs. M. & E. Wolf, of Bayou Sara, La., and Mr. V. M. Jackson, Laurel Hill, La., and was grown in the season of 1904.

LONG-STAPLE UPLAND VARIETIES.

SOUTHERN HOPE.

The variety known as Southern Hope (fig. 7) is stated by Prof. S. M. Tracy to have been originated by Col. F. Robieu, of Louisiana, from seed said to have come from Peru. It is one of the old varieties, but after being in cultivation a quarter of a century still remains a favorite in some sections, and has been preserved nearly pure by a number of cultivators.

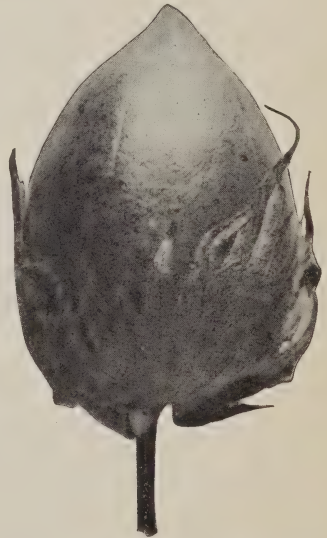


FIG. 7.—Mature boll of Southern Hope cotton.

There is a growing opinion that cottons of better staple should be more extensively cultivated. In some sections a prejudice exists against the growing of varieties of long-staple cotton, but this is mainly directed against the varieties with a staple of from $1\frac{1}{2}$ to $1\frac{5}{8}$ inches in length. The varieties of medium long staple, like the Southern Hope, yield nearly or quite as heavily as the ordinary Uplands, and always sell for a considerable premium over the short staples.

Plant pyramidal, spreading, open, rather long jointed; bolls 4 and 5 locked, medium size, ovate, blunt-pointed, opening well and easy to pick; seeds medium size, white, fuzzy or tufted; lint white, averaging $1\frac{1}{4}$ inches in length, fine, and fairly strong; per cent of lint to seed cotton, 30 to 32; season of maturing medium.

In 1904 a considerable quantity of seed was picked from selected individual plants grown at Yazoo City, Miss., and Columbia, S. C. The seed distributed by the Department of Agriculture this season (1906) was taken from a field planted with this carefully selected seed at Columbia, S. C., in 1905.

SUNFLOWER.

The Sunflower variety (fig. 8) is of unknown parentage, being the offspring of seeds shipped to an oil mill in Yazoo City, Miss., in 1900, which were purchased for planting by Mr. Marx Schaefer. The field in which the seeds were planted soon attracted attention by the vigorous growth of the plants, and when the crop began to mature it was readily seen that it was of very superior quality. Selections of seed from the best shaped and most prolific plants were made that season, and the same method of selection has been followed for each succeeding crop, with the result of making the plants more uniform in shape and more prolific. The yield has been from 300 to 500 pounds of lint per acre, fully equal to the yields of short-staple varieties grown during the same seasons on the same plantation. The crops sold in Yazoo City during the past four years have brought from $14\frac{1}{2}$ to $15\frac{1}{2}$ cents per pound, and no other cotton sold in the same market has brought a higher price.

The writer grew a small plat of Sunflower cotton in the season of 1903 at Columbia, S. C., in comparison with plats of all the well-known varieties of long-staple Uplands. While from the history of the origin of the variety it would probably be supposed to be the same as some well-known sort, it proved to be very distinct in general appear-

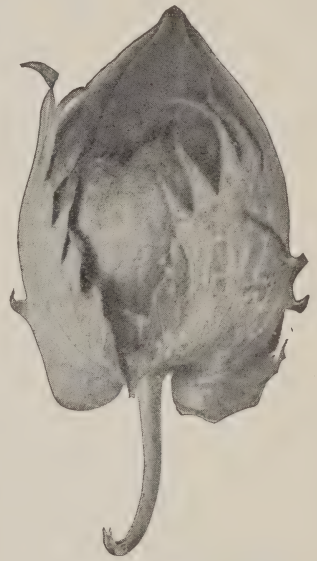


FIG. 8.—Mature boll of Sunflower cotton.

ance, form of branching, earliness, and productiveness. The selections made by Mr. Schaefer may have materially modified the characters of the variety. However this may be, it is certainly distinct from any sort known to the writer, being about ten days earlier than Allen Improved, Griffin, or any of the other varieties of long-staple Upland cottons tested in comparison with it. It was nearly as early as a plat of King planted near it, but continued to set and mature bolls much later than that variety. Its earliness and productiveness indicate that it will be found to be a good variety for general cultivation.

Plant vigorous, medium in size, sugar loaf in form, similar to Peterkin and very prolific; bolls 4 to 5 locked, medium size, ovate, blunt-pointed, opening well but not dropping the seed cotton; seeds medium in size, covered with white fuzz, 8 to 9 per lock; lint fine and strong, white, $1\frac{3}{8}$ to $1\frac{1}{2}$ inches in length, 28 to 30 per cent of the seed cotton; season early.

The field from which the seed distributed was taken was planted with seed carefully picked from selected individual plants, the selections being made by agents of the Department of Agriculture at Yazoo City, Miss., in 1904. The plants were grown for the Department by Mr. A. M. Lee, at Bishopville, S. C., in the season of 1905. The field grown by Mr. Lee produced over 500 pounds per acre of lint of an excellent quality.

METHODS OF CULTIVATION AND GINNING.

SHORT-STAPLE UPLAND VARIETIES.

The methods of cultivation which should be pursued in growing the varieties of short-staple Upland cotton distributed are the same as those used for any ordinary Upland cotton. No exact directions can be given with respect to the distance apart of the rows or the distance between the plants in the row, as the space required by each plant is determined by the fertility of the soil in each case. The varieties distributed are all quite similar in size and habit of the plant. Under ordinary conditions satisfactory results would be obtained with them by planting the rows 4 feet apart and the plants from 18 to 24 inches apart in the row. On rich soil this distance should be somewhat increased, while on sterile land closer planting would be desirable.

LONG-STAPLE UPLAND VARIETIES.

Sunflower and Southern Hope, while producing a medium long fine staple, are in size and general appearance very similar to ordinary short-staple varieties, such as Parker and Peterkin, and the same cultural methods are to be recommended as are used with the ordinary short-staple sorts. In picking, handling, and ginning, however, more care is required if the highest market price is to be realized. Greater care should be exercised in picking to avoid getting the fiber mixed

with fragments of leaves, bolls, and twigs. Fiber from immature and weather-stained bolls should also be rejected. Pickers accustomed to picking ordinary cotton are liable to be careless in picking long-staple cotton, owing to their endeavor to gather large quantities and increase their wages. In fine grades of long-staple Upland cotton it would probably also be found desirable to spread the seed cotton on a platform in the sun for a few hours to dry before storing it.

The difficulty of properly ginning long-staple Upland cottons has been considered an obstacle to their general cultivation. It is generally recognized that long-staple Sea Island sorts require to be ginned on a roller gin, as the saw gins tear and break the fiber to such an extent as to greatly reduce its value. It is also very generally supposed that the long-staple Upland cottons require to be ginned on a roller gin, and this understanding has prevented many from attempting to grow these cottons, as roller gins are ordinarily only accessible to growers in regions where Sea Island cotton is cultivated. Experience has shown, however, that long-staple Upland cottons may be ginned on ordinary saw gins if care is used in the process. Before ginning these cottons the gin saws should be sharpened square across the teeth and then dulled somewhat by use in ginning ordinary short-staple cotton. It is also important to run the gin at a lower rate of speed than in ginning ordinary short-staple cottons, 300 revolutions per minute being usually recommended. If these precautions are observed the long-staple Upland cottons may be very satisfactorily ginned on any ordinary saw gin.

It is also important that growers of long-staple Upland cottons give special attention to the marketing of the product. In 1902 the writer saw several bales of long-staple Upland cotton sold to a buyer at a small interior town in South Carolina for 10 cents, which were certainly equal to bales of similar cotton which he saw sold in the New Orleans market the week following at 15 cents, when ordinary cotton was selling at 8½ cents. Many of the failures with long-staple Upland cotton have been due to the lack of experience on the part of the grower in the matter of marketing. Some buyers take advantage of the grower's ignorance, purchasing cotton for 10 cents that is worth 15 cents and realizing the difference themselves. Until buyers inform themselves on the value of long-staple cotton and pay reasonable prices it will have to be consigned to general long-staple markets, such as New Orleans, Memphis, or Vicksburg, or to some of the large New England markets, such as Providence or Boston.

HOW TO GROW PURE SEED OF GOOD QUALITY.

It is a well-known fact that varieties of cotton become mixed and impure unless special care is taken to prevent crossing with other varieties. If growers receiving seed of any of the varieties sent with

this circular desire to grow the same sort another year, precaution should be taken to plant the seed in an isolated patch, situated as far from any other varieties as possible. It should be at least one-fourth of a mile from any other cotton and preferably in a field surrounded by a forest, particularly on the side nearest to other cotton fields. Before any seed is gathered for planting, all plants which are not true to the type of the variety should be carefully weeded out.

If it be desired to keep the variety up to its full productiveness and better adapt it to local conditions, this may be easily accomplished by following a simple and inexpensive method of selection. Before beginning the picking, go over the patch carefully and select and mark with a white cloth the best plants—that is, those most productive, earliest in ripening, and having the largest, best formed, and most numerous bolls. Care should also be exercised to select plants that are true to the type of the variety. Before each picking, except the last, send a careful man over the patch to pick the seed from the selected plants. Preserve and gin this seed separately to avoid mixing, and use it to plant the crop the following year.

If this simple method of selection is carried out each year, the yield will doubtless be greatly increased and much more added to the crop than would result from special fertilization or cultivation, though these factors should by no means be neglected. The importance of careful seed selection is seldom fully recognized, and growers are urged to give this factor of cotton culture more careful attention.

REPORT OF RESULTS DESIRED FOR PUBLICATION.

In order to determine the comparative value of the different varieties of cotton in various cotton-growing regions, the growers receiving this seed are requested to give it a thorough trial in comparison with the variety or varieties that they ordinarily grow, and be prepared in the autumn of 1906 to report the results of the test to the United States Department of Agriculture. A report will then be requested covering the following points:

- (1) Character of the soil.
- (2) Character of the season.
- (3) Total yield of seed cotton produced. (Determined by actual weighing.)
- (4) Total yield of lint produced. (Determined by actual weighing.)
- (5) Size of patch grown. (Determined by actual measurement.)
- (6) Yield per acre. (Estimated from the patch grown.)
- (7) Rating of the variety for your section—whether *excellent*, *good*, *fair*, or *poor*.
- (8) Name of the variety ordinarily grown by the planter making the test.

(9) Yield of ordinary variety this year on same soil as the variety under consideration.

It is especially requested that growers carefully note the points enumerated above in order that they may secure the necessary data and be ready to supply accurate information when it is called for next autumn. If data sufficiently accurate are furnished, a report will be compiled and issued giving the results of the various trials in all sections, and this report will be sent to all planters cooperating in the experiment. In this way it is hoped to obtain valuable and reliable information regarding the varieties best adapted to various sections of the cotton belt.

HERBERT J. WEBBER,
Physiologist in Charge of Plant Breeding Investigations.



